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Regionalized Liquidity and the "Power to Generate": A Cross-Country Analysis of Mobile Money Deployment and Inflation in Developing Economies

Christina M. Qiu (Yale University)

Mobile money platforms allow for the use of mobile phones as payment devices, providing access to savings, credit, and remittance provision for the unbanked. However, the effects of widespread technological adoption on the financial governance capabilities of developing countries has been underexplored. This paper provides evidence for a regionalized Fisher’s equation that suggests inflation occurs as a consequence of risk-sharing from liquidity-flexible to liquidity-constrained regions. Occurring in a context of relatively closed intra-country regional markets, the newfound ability of money bearers “to distribute” approximates a central bank’s ability “to generate”. The destabilizing effect of mobile money represents a fractionalization of the “power to generate” liquidity primarily associated with a central bank.

The contribution of this paper is the following. First, the paper presents a regional theory of inflation that draws from a conception of agricultural developing economies as a collection of relatively closed local markets whose integration is limited by infrastructure and labor considerations. A regionalized inflation model challenges the notion of a nationally-applied Fisher’s equation that either an increase in national money supply or velocity rates relate cleanly to increased inflation; instead, price levels are set regionally, dependent on regional money supply and velocity rates. The risk-sharing function of mobile money that allows low-cost financial flows from liquidity-flexible to liquidity-constrained regions represents a mechanism of systematic money supply injection on a regional level. This framework is substantiated through an analysis of relational financial flows via M-Pesa in Kenya that clarify risk-sharing occurs primarily on a cross-village level. Second, the paper provides evidence for the inflationary effects of mobile money through a cross-country difference-in-differences regression model, the first to do so. The increase in inflation amounts to approximately 0.6722 points per month, which constitutes 13.44% of an inflation target of 5 points such as the Kenya Central Bank’s and 33.61% of an inflation target of 2 points such as the United States Fed’s. Finally, the paper examines merchant payment and bill payment services provided in deployments as a way to temper the inflationary effects of mobile money.